

# An Interpretive Guide

to the

## NATURE TRAIL

### John A. Phillips Preserve



## County of Middlesex Office of Parks and Recreation

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*New Jersey* by Howard P. Boyd

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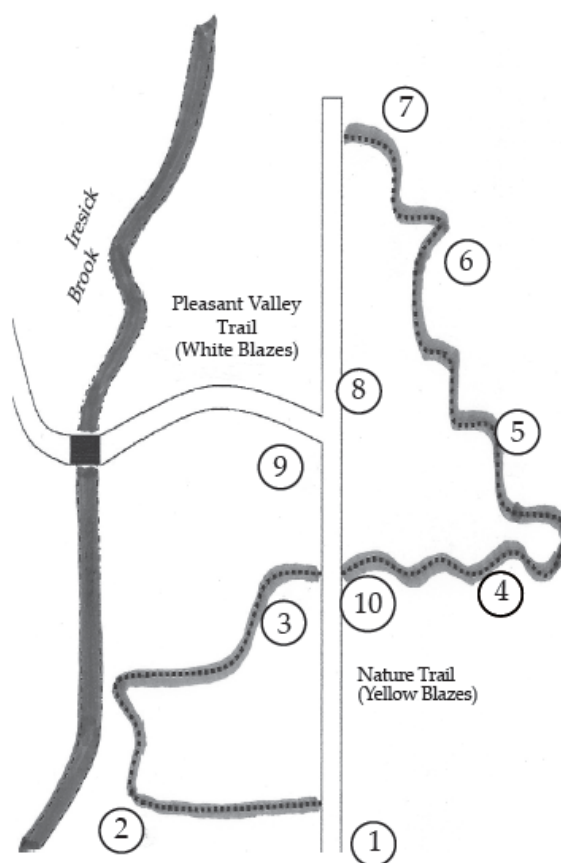
Welcome to the *John A. Phillips Preserve Nature Trail*. This 0.5 mile interpretive trail explores the unique plants and animals found here. The trail meanders along the scenic Iresick Brook while passing through forests of pitch pine and oak, sweet pepperbush and blueberry. Chickadees and pine warblers punctuate the stillness of the trail with their excited calls.

The interpretive stops described in this brochure are indicated by numbered posts along the trail route. The trail route is marked with yellow trail blazes painted on the trees. *Use the key on the back of this brochure to help you navigate and follow the trail blazes.*

As you walk the nature trail, let your senses come alive and enjoy this truly distinctive place. Please remember that all living and non-living things at the preserve are protected. Take only your memories and leave everything else for others to enjoy.

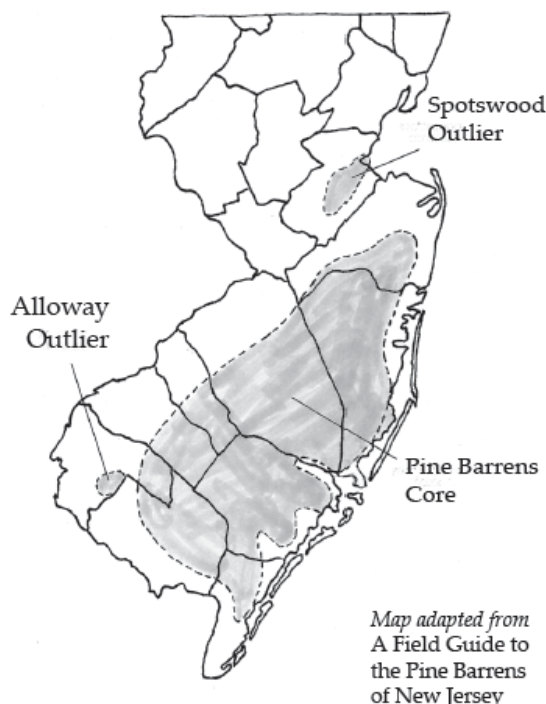
### Trail Map

# Numbered interpretive station



TRAILHEAD  
INFORMATION  
BOARD

**1 Pine Barrens** A brief glance around you and a quick sniff of the air and you'll realize you're in a special place – the Pine Barrens. The New Jersey Pine Barrens is one of the most unique ecosystems in the country. The John A. Phillips Preserve falls within the Spotswood Outlier – a small “island” of Pine Barrens habitat, approximately 20 miles north of the main core of Pine Barrens.



Extent of Pine Barrens ecosystem

The main core of the Pine Barrens covers parts of nine counties in southern New Jersey. The Spotswood Outlier in Middlesex County and the Alloway Outlier in Salem County are physically separate from the main Pine Barrens core, but are ecologically the same.

The Pine Barrens are characterized by sandy, acidic soil. Plants that live here must be tolerant of soil that contains few nutrients and has little water-retention capability. The forests are composed primarily of pine and oak trees while blueberry and huckleberry dominate the forest floor. The Phillips Preserve is also home to rare orchids like the pink lady's slipper.

**The nature trail turns left up ahead  
and continues into the woods**

**2 Along the Brook** The brownish-red water of the Iresick Brook is the result of high iron content in the soil and *tannic acids* that leach out of decomposing pine needles. Look carefully for prints of raccoons as they follow the brook in search of frogs, while water striders skate along the surface hunting for their next meal.



raccoon track

**3 Pitch Pine** is the dominant tree in this pine oak forest and grows well in the nutrient poor soils of the preserve. Dark, olive green needles in bundles of three and small cones with a stout prickle on the tip of each scale help identify this common tree. Pine warblers, tufted titmice, and chickadees can be found flitting between branches in search of seeds from the cones. Although not an important timber tree, it was once a major source of pitch and timber for ship building because the wood's high resin content preserved it from decay.

from Common Forest Trees of New Jersey



**Cross the sand road  
to continue on the nature trail**

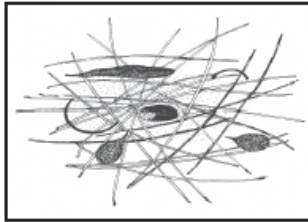
**4 Can you stand the heat?** Close examination of this pitch pine reveals black scars from a fire that burned years ago. Pitch pine is adapted for frequent fire and in part, relies on it for reproduction. Many pitch pines have cones that are *serotinous* – they are sealed tight and won't open unless heated by fire. Thick insulating bark protects the tree during these fires and even if the above ground part of the tree is injured or killed, dormant buds in the trunk and root collar will send up *epicormic sprouts*, shoots that can grow into a new tree.

Watch for ridges left by the eastern mole as it travels through the sandy soil



**5 Duff** Can you feel the soft mat of organic material beneath your feet? *Duff*, as it is commonly called, is the result of the slow decomposition of leaves, needles and plant material on the acidic soils of the preserve. As this carpet of leaves and twigs builds up over time, it creates a thick, unsuitable seedbed that traps new pitch pine seeds and keeps them from reaching the ground and taking root. Periodic fires prevent the accumulation of duff and allow for new pitch pine growth. Without fire, the more shade tolerant oaks would eventually take over as the dominant tree species.

*duff or  
leaf litter*



**6 Let's Eat** Sassafras is easily identified by its three distinctive leaf shapes, usually all on the same tree. Can you find the one shaped like a mitten? The leaves are eaten by the caterpillar of the spicebush swallowtail butterfly and the shiny, blue-black fruits produced in the fall are important wildlife food. Wild turkeys, gray catbirds and the Eastern phoebe are a few of the eighteen different bird species who rely on this high-quality fruit. People also use dried and ground sassafras leaves to make filé (fillet) powder for flavoring many gumbos.



*sassafras*

*from Common Forest Trees of New Jersey*



Look for "pitfalls" of antlion larva as they patiently wait for their next meal

Not actually a fern, but a common shrub, the crushed leaves of the sweetfern were used to treat poison ivy by American Indians

*sweetfern*



*from A Field Guide to the Pine Barrens of New Jersey*

**7 Acorn Delight** Oaks, along with pitch pine, are the major trees forming the canopy layer in this forest. Nine different species have been cataloged on the preserve including white, red, blackjack and post oak. Acorn crops produced by these trees are a significant food for deer, turkeys, blue jays and squirrels. Observe the rounded edges of the white oak leaf in contrast to the pointed edges of the red oak, the state tree of New Jersey.



*white oak*



*red oak*

*from Common Forest Trees of New Jersey*

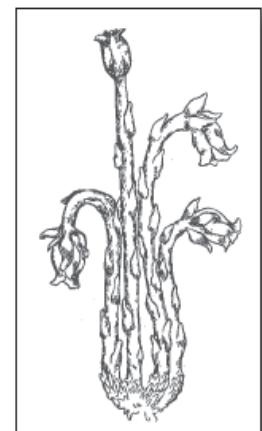
**8 Heaths** The hearty plants that survive beneath the forest canopy are primarily from the heath family. Blueberries and huckleberries form the bulk of the shrub layer throughout the forest. An abundance of food and shelter is found among the heaths. The wood thrush and gray catbird both rely on a dense shrub layer for nesting sites, while insects are abundant for the brown thrasher and the black-throated green warbler.



*brown  
thrasher*

*from A Field Guide to  
the Pine Barrens of  
New Jersey*

This white, waxy flower lacks chlorophyll and can not obtain energy from sunlight; rather, it gains nutrients from organic matter in the soil



*indian pipe  
from A Field Guide  
to the Pine Barrens  
of New Jersey*



**9 New Jersey State Fruit** The first cultivated blueberry was grown in the Pine Barrens of Burlington County by Elizabeth White in 1916. These heaths grow well on the dry, sandy, acidic soils of the preserve. The whitish,



*highbush  
blueberry*

bell shaped flowers are an invaluable nectar source for numerous insects in the spring, while the sweet blue-black fruits provide an important seasonal food for many animals. The American robin, scarlet tanager, and veery, along with white-

footed mice and striped skunks are prominent blueberry foragers.

*from A Field Guide to the Pine Barrens of New Jersey*

**10 Insect Homes** The strange plant growth on the twigs of this oak was caused by tiny wasps from the insect family *Cynipidae*, or the Gall Wasp family. *Gouty oak galls* are formed when a female wasp lays an egg in the new plant tissue, causing it to swell and form a protective "home" around the developing larva. The larva remains in the gall, receiving food, water and shelter from the plant, until it is ready to emerge as an adult. Can you find the small "exit holes" on the galls?



*gouty oak gall*

This is the final trail stop. We hope you have enjoyed your experience and have a greater appreciation of the plant and animal life found at the preserve. Each life form, however small, plays an important role on this planet.

*The last word in misunderstanding is the man who says of an animal or plant: "What good is it?" If the land mechanism as a whole is good, then every part is good, whether we understand it or not. If the biota, in the course of aeons, has built something we like but do not understand, then who but a fool would discard seemingly useless parts? To keep every cog and wheel is the first precaution of intelligent tinkering . . .*

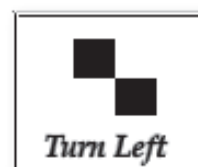
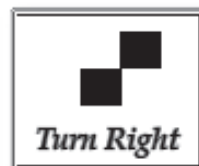
*Aldo Leopold, A Sand County Almanac*

**Continue straight on the sand road  
to return to the trailhead**

The Nature Trail is located at the *John A. Phillips Preserve* in Old Bridge. Acquired in 1997, the Preserve encompasses nearly 1700 acres of forest, stream and wetlands. It is located in the Spotswood Outlier, a unique "island" of Pine Barrens habitat dominated by pitch pines, scrub oaks and blueberries. The Preserve also includes John A. Phillips Park which hosts several baseball and soccer fields, as well as a cricket pitch.

The Middlesex County Office of Parks and Recreation administers 18 county parks and recreational facilities, encompassing nearly 3,000 acres. Additionally, the Parks Office is responsible for more than 7,000 acres of open space acquired through the Open Space Trust Fund.

### Trail Blaze Key



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